Society Reports.

THE PHILADELPHIA NEUROLOGICAL SOCIETY.

Stated Meeting, January 23, 1888.

THE VICE-PRESIDENT, CHARLES K. MILLS, M.D., IN THE CHAIR.

DR. F. X. DERCUM reported a case of

CHOLESTEATOMA, WITH REMARKS ON THE ORIGIN OF THE TUMOR.

P. J., aged 43, unmarried, an Englishman by birth, was admitted to the nervous wards at the Philadelphia Hospital on August 3, 1887. He was dull and stupid. He answered questions slowly and imperfectly, and gave a very poor and disconnected account of himself. He said that about nine years ago he had had a wen removed from his scalp at the German Hospital. Otherwise he had been in good health.

Careful examination of the scalp failed to reveal any evidence of a former operation, and an exhaustive search among the records of the German Hospital failed to reveal any history of it.

His present trouble had commenced about three months ago, with trembling of the hands, and more or less mental confusion. He had what he called a "rigmarole of things" in his head. On admission he complained of constant and persistent headache, which he invariably referred to the base and the back of the skull. He was, in addition, quite weak, but in no sense paretic. Sensation seemed to be normal. The knee-jerks were markedly increased. An examination of the eyes revealed double optic neuritis. The pupils at this time showed no decided inequality.

Brain-tumor was deemed probable, but, owing to the absence of special symptoms, it was not possible to locate the lesion. There had at no time been any localized palsy, any convulsion, or, in fact, any symptom referable to this or that part of the cortex.

The patient was under constant observation up to the 31st of August, when he died. During this time his mental condition gradually grew worse. He became more and more stupid, and at times wandered. On the day of his death he commenced vomiting, the vomit consisting merely of mucus and bile. He rapidly became less and less conscious, and finally lay perfectly quiet, with the exception of occasional movements of the head and arms. These movements were, however, not in any way convulsive. When the hands or arms were pricked with the æsthesiometer he would draw them away, but further than this he could not be aroused. His right pupil was now seen to be widely dilated, while the left responded but sluggishly to light. His pulse was 64, soft and compressible, and his respiration was 28. His general appearance was that of a man in a sound sleep, but whose face was flushed. Toward evening his depression deepened, and at 7.20 P.M. he died.

At the autopsy it was found necessary to remove the brain entire with the calvarium, all of the tissues, the brain, dura, and bone being very much adherent to one another. An examination revealed this adhesion to exist in an area some two or three inches in diameter in the right frontal region. In forcibly separating the dura from the bone a rough prominence was discovered on the latter, occupying the middle of this area. The prominence measured about two-thirds of an inch across, and about one-sixteenth to one-eighth of an inch in height. The outer surface of the calvarium revealed no change other than a slight deepening of color—a faint purple tinge—at the site corresponding to the prominence on the inner side. The dura mater, on the other hand, exhibited a depression, a shallow pit, the counterpart of the bony prominence. Beneath this pit, and for the radius of an inch or more around, the tissue felt much firmer than normal, and a rounded mass was readily outlined by the finger. On attempting to raise the dura it was found to be intimately united with the underlying tissue, not only over the tumor, but also over the entire vertex. The pia, in turn, was everywhere intimately adherent to the cortex. Its meshes were quite œdematous, as was also the brain substance. Some of the convolutions, especially at the base, were much swollen. The walls of the ventricles were exceedingly pale. The right lateral ventricle was much compressed. The choroid plexuses were cystic. The vessels at the base were apparently healthy. The veins of the pia were quite full.

The tumor was found to be situated between the first and second frontal convolutions, on the one hand, and the anterior central, on the other. It had developed downward, and gradually separated these convolutions. The pia was intimately adherent to the edge of the growth, and did not separate it from the brain substance. A number of vessels could be seen passing from the former directly into the latter. When incised the tumor had a whitish or pinkish-white color. It was quite friable, and a pinkish-white juice could be expressed from it.

The microscopical examination reveals its general structure to be that of a sarcoma, while scattered through it in varied profusion we find typical pearly bodies.

Dr. Dercum had not been able to find in the literature of endotheliomata or cholesteatomata an exactly similar case. The formation of the pearly bodies in the midst of a sarcomatous tissue is exceedingly interesting, especially in the present instance, as the locality of the tumor gives abundant opportunity for the origin of the endothelioid formations. As seen in the drawing, they closely resemble the pearly bodies of the epitheliomata, so much so that some writers still believe them to be of epiblastic origin. Their occurrence, as in the present instance, in the depth of a sarcomatous tissue, is certainly another argument against this view.

On examining them closely their concentric, onion-like structure is readily seen. Their centre appears to be made up of a granular and nuclear material which is probably cell detritus. Toward the periphery individual cells, more or less preserved, are still to be distinguished. They are sharply differentiated from the surrounding tissue; though the vacant space seen about them is probably the result of the hardening process.

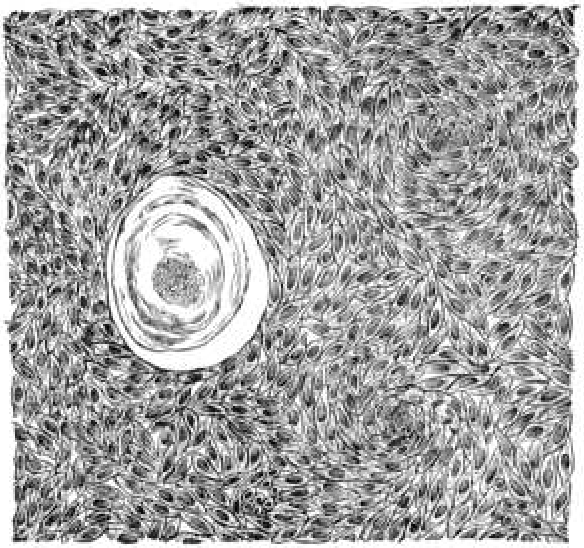

FIG. 1.

Clinically this tumor is interesting from the absence of symptoms enabling us to localize it. Dr. Dercum's impression was that it was either far forward in the frontal region or back somewhere in the occipito-temporal region, not interfering with the cuneus. He favored the latter supposition on account of the basal and occipital pain. He regretted that the scalp was not shaved, in order that evidences of traumatism could have been better sought for.

The man had an exostosis on the inner table of the calvarium involving the upper portion of the frontal bone somewhat in advance of its junction with the upper portion of the right parietal. There had been inflammation of the dura about the exostosis, with adhesion to the pia. From this focus of irritation the tumor appears to have developed.

Dr. William Osler said that a short time ago he reported a case in which the pearly bodies were even more distinct than in the specimen shown, and in which the origin from the endothelium of the floor of the third ventricle and infundibulum was evident. In this tumor, as in Dr. Dercum's, there were many spindle-cell elements. Cholesteatomata are more common at the base than on the cortex.

Dr. Charles K. Mills said that Dr. Dercum's case was of interest as bearing upon the localization of growths in the second frontal convolution. In the case on which Dr. Keen operated, the tumor was in much the same position, perhaps a little lower. In a case which he reported to the Pathological Society the tumor was situated in much the same locality. In all these cases there were eye symptoms. In his own case he noted a certain fixity of the eyes with dilatation of one pupil. These cases to a certain extent carried out the idea of Ferrier and others, that the oculo-motor centres are located in the second frontal convolution.

Dr. Dercum said that his patient had no specific symptoms of the locality of the tumor. He did not place the same interpretation upon the eye symptoms as did Dr. Mills. This tumor did not press directly upon the cortex, nor did it irritate the cortex. The man was killed by œdema of the brain, and not directly by the tumor itself. The mass grew downward between the first and second frontal convolutions and the ascending frontal, and it separated these so gradually that no irritation was produced. The eye symptoms were of late occurrence. The tumor became so large that the venous return was interfered with and the brain became œdematous, and was so found at the post-mortem. As a result we should expect oculo-motor symptoms from transmitted pressure. The size of the tumor was probably also increased by œdema. The right half of the brain was not as œdematous as the left, as it had not so much room to swell. The left base was much swollen.

Dr. Osler presented

A CASE OF LOCAL SYNCOPE AND ASPHYXIA OF THE FINGERS.

The patient came to the Infirmary for Nervous Diseases a few days ago, with her hands in the following condition : The second, third, and little fingers of the left hand were like marble, the line of demarcation being at the second joint. The thumb and index fingers, with those of the right hand, were livid, particularly the terminal phalanges. The condition is aggravated by exposure to cold. The local syncope is so marked that he thought the members would be interested in it. The condition is variable, the syncope in a short time is followed by asphyxia. This is the mildest grade of Reynaud's disease, which in extreme cases may result in gangrene of the affected finger-tips.

He thought that the local syncope is caused by vasomotor spasm. Following this there is relaxation of the spasm with extreme engorgement. Such a condition produced by the local action of cold is closely related to chilblains. Many of these cases have had chilblains. Last winter he had at the University Hospital a child, aged thirteen or fourteen, who had presented for many years this condition of local asphyxia of the terminal phalanges of both hands. It did not vary in any degree while under observation.

DR. EDWARD N. BRUSH reported

A CASE OF PORENCEPHALUS, WITH SPECIMEN.

J. K., aged 57, a native of Pennsylvania, married, by occupation a laborer, was admitted to the Pennsylvania Hospital for the Insane, June 16, 1885.

The following is an abstract of the history of the case: At birth the patient was observed to be unsymmetrically developed. The left side was smaller than the right, the limbs were shorter and their circumference less. No history of infantile paralysis could be obtained, and the patient is said to have walked at about the usual age, though with a limp which continued through life, owing to the shortness of the left leg.

At the age of nine, while playing in a barn, he fell to the floor from the hay-loft, a distance of some sixteen feet, striking the back of his head. For some weeks following this fall he complained of headache, but his general health did not seem to be affected.

As a young man he was intemperate in the use of liquor, but he had been, for some years prior to admission, of temperate habits.

A maternal uncle had been insane, and several relatives are said to have died of "dropsy of the heart."

About nine years before admission to the hospital he had sunstroke, and was from that time frequently troubled with severe headache, especially during the hot weather.

He had always been a man of violent temper and rough in conversation, and, following the sunstroke, is said to have become worse in these respects. By some he was regarded as not possessing a thoroughly balanced mind. His friends had not noticed any active mental disturbance earlier than a week prior to his admission to the hospital, when he suddenly became noisy and violent, and gave expression to extravagant delusions. His condition, however, on admission pointed to a much longer period of mental disturbance, as he was in advanced general paresis. Upon inquiry, it was found that as early as December he had been talking in a boastful manner of his power and possessions, and particularly of the speed of his horse. It was also found that he had not, on account of his imaginary wealth, made any charge for his services as a carter since spring.

On admission he walked with a slight halt, the left leg was shorter than the right—as was also the left arm ; there was some asymmetry of the skull, particularly in the occipito-parietal portions—the left arm was stiff from an old fracture. In addition to the limp, his gait was somewhat ataxic. He swayed to a marked degree when standing with his eyes shut. The tendon (patella) reflexes were absent. The pupils were unequal, the left being the smaller. They responded to light very slowly, and not at all to accommodative changes. No other examination of the eyes was made at the time, and the patient was never in a condition subsequently to permit any. There was commencing cataract in each eye.

The patient gave expression to very extravagant delusions of wealth, and was lavish in his gifts of checks to all about him.

There was marked tremor of the lips and tongue, and of the hands and fingers as well. He pronounced his words in a hesitating, drawling fashion, and frequently stumbled over words of many syllables.

The case progressed without incident for some weeks. He was frequently noisy, shouting and singing. His gait grew more disturbed—he manifested a tendency to fall forward, and, when once started, would almost run at times to keep from falling. At the end of a month his pupils had become almost pin-points. His speech was more hesitating and his delusions more extravagant. He said that he had a horse which could trot a mile in a minute and a quarter less than no time—and another that could go around the earth in two minutes and a quarter. He had hallucinations of sight and hearing.

For a time the patient gained in flesh, but soon lost, and in the fall was quite emaciated, though eating heartily. The tendency to fall forward continued, and it became necessary to support him in walking. When he could be induced to stand still, he was able to support himself fairly well.

To omit unnecessary detail, it will suffice to say that the patient became noisy, untidy, and very destructive of clothing—at the same time failing mentally and physically. In November, five months after admission, he was quite demented, and his speech was hardly intelligible.

On December 2, 1885, the ward notes state that his morning pulse was 48; temperature, 97°; P.M.: pulse, 56; temperature, $97\frac{8}{10}$°; in bed, quite feeble. On the day previous he had been up and had taken some exercise in the ward with the assistance of an attendant.

December 3d, A.M.: pulse, 60; temperature, $97\frac{8}{10}$°; P.M.: pulse, 64; temperature, 98°; heart sounds muffled; respiration, 14.

December 4th, A.M.: respiration blowing, 10 to 12; pulse, 48; face pale; body generally blanched. Is comatose. At 2.30 P.M., the respirations were but eight per minute and wholly diaphragmatic; pulse, 54. Died at 8.15 P.M.

Autopsy sixteen hours after death. Examination made of brain only. On removing the calvaria the dura in the right occipito-parietal region protruded, bulged out as if from internal pressure. Dissecting the dura carefully from the brain, to which it was strongly adherent over the vertex, this protrusion was seen to be due to a large accumulation of serum beneath the arachnoid. In removing the brain, the arachnoid was accidentally ruptured and the fluid escaped. About six fluid-ounces were collected, and found to differ in no respect from the ordinary cerebro-spinal fluid.

Enlarging the opening in the arachnoid, the cavity which is shown in the specimen was found. It will be observed that it communicates with the lateral ventricle, the posterior cornu of which is enlarged, and that it is lined, except where it communicates with the ventricle, with the pia mater. This cavity, it will be observed, occupies the position of the parietal lobe and encroaches also upon the occipital and temporal.

The ascending parietal convolution is, in its upper portion, almost wholly absent, a small amount of cortical substance held in the meshes of the membranes alone remaining.

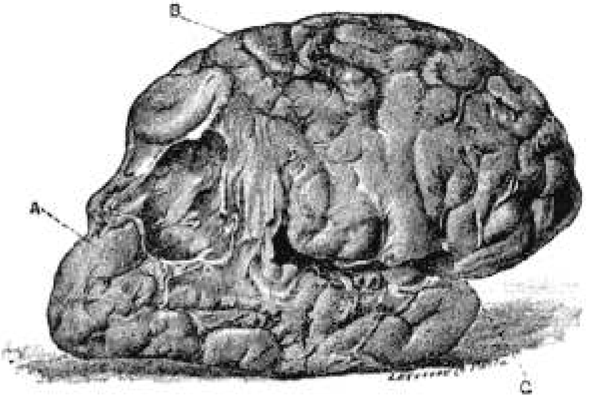

FIG. 2.—A, Parieto-occipital fissure; B, central fissure (fissure of Rolando).

The superior parietal lobule, or a portion of it, rather, forms the roof of the cavity. Nothing of this lobule remains but a mere shell of cortical substance and membrane which overhangs the cavity.

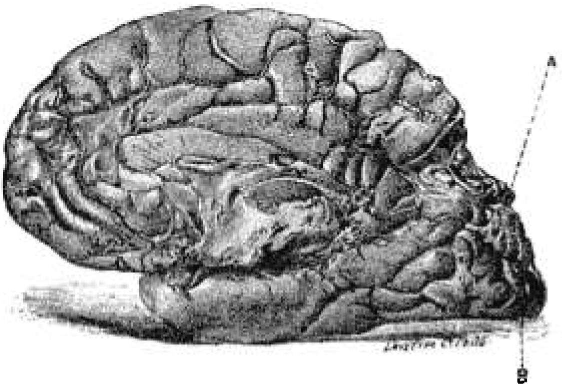

FIG. 3.—A, Parieto-occipital fissure; B, calcarine fissure.

The posterior portion of the superior temporal convolution is absent, and nothing but a thin membrane exists between the cavity and the fissure of Sylvius, which is turned abruptly upward. The inferior occipital convolution appears intact, but of the superior and middle convolutions but a small portion remains.

On the inner surface of the hemisphere the cuneus is simply represented by a shell of brain substance, and of the quadrate lobule nothing remains but a thin stratum of brain substance at its anterior portion.

If the right hemisphere is compared with the left, the portion not encroached upon by the cavity is markedly smaller, and the convolutions are not as well developed. The difference in weight between the two hemispheres was, when removed and thoroughly freed from fluid, nine and one-eighth ounces.

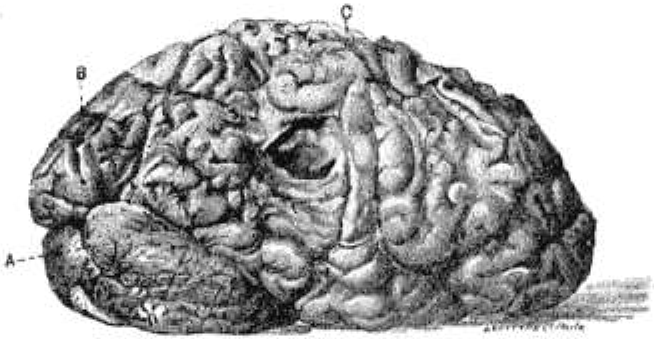

FIG. 4.—A, Right half of cerebellum, not symmetrical with the left; B, occipital lobe, left hemisphere; C, central fissure (fissure of Rolando).

The cerebellum has developed unsymmetrically, the right half extending upward and forward considerably in advance of its fellow, owing to the absence of resistance from the right cerebral lobes. It is to be regretted that the maniacal state present at the admission of the patient, and the subsequent dementia into which he passed, prevented a more careful clinical study of the case, and especially that no opportunity was afforded for recording the eye symptoms.

DR. E. T. BRUEN also presented a specimen from a

CASE OF PORENCEPHALUS.

The specimen of the brain which was presented was removed from the body of Mary C., aged 32, who died in the

Philadelphia Hospital September 21, 1887. On removing the dura mater four cysts were found, situated upon the cortical portion of the brain near the occipital lobes of both sides.

There were two cysts on each side of the median fissure, those on the right side were irregular in shape, and somewhat larger in size than a walnut. They were situated mostly over the occipital lobe, but the outer one particularly extended over a portion of the parietal lobe. In the left cortex the cysts were much larger, the one close to the longitudinal fissure extended forward three inches, and was an inch in diameter. The smaller cyst was two inches long by three-quarters of an inch in diameter. The inner and larger cyst extended over the occipital and parietal lobes, parallel with the longitudinal fissure. The outer and smaller cyst occupied a position over the occipital lobe, but extended somewhat over the parietal lobe. The walls of the cysts were composed of thin lamina of membrane, and contained a clear fluid. Owing to the pressure occasioned by the cysts, extensive atrophy of the convolutions of both occipital lobes had occurred, but upon the left side the convolutions of the superior portion of the parietal lobe had also been decidedly involved in the atrophy consequent upon the pressure. This process was so marked that the surface of the left cerebrum was depressed half an inch below that of the right, and the entire left hemisphere occupied by the cysts appeared distinctly smaller. The close proximity of the cysts upon the left side to the fissure of Rolando, shows that the motor tract on this side of the brain must have been subjected to irritation by pressure during the development of the cysts.

DR. OSLER had seen several specimens of cysts in the brains of adults which were evidently, from the history, due to embolism or thrombosis, with secondary atrophy. Such defects may be large, and form examples of true porencephalus ; but the condition which Heschel first accurately described, and to which Kundrat has devoted a large monograph, more often originates in fœtal life, either in an error of development or as the result of disease. Encephalitis, obliteration of arteries, traumatism at birth—any condition, in fact, which in the fœtus or child leads to destruction of brain tissue—may produce porencephalus. Kundrat states that in the congenital cases the arrangement of the convolutions about the defect is radial. Bilateral lesion, as in Dr. Bruen's specimen, is rare, but the convex surface in the neighborhood of the motor zone is the most common seat. Intellectual defects and spastic paralysis are almost invariable associations when the condition is congenital or due to disease during infancy.